Mosquito-Borne Disease Surveillance, Response and Communication Plan 2004

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Clark County Mosquito Control District

Clark County Health Department

CLARK COUNTY MOSQUITO CONTROL DISTRICT
AND
CLARK COUNTY HEALTH DEPARTMENT

MOSQUITO-BORNE DISEASE SURVEILLANCE, RESPONSE AND COMMUNICATION PLAN

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INTRODUCTION

The purpose of this surveillance, response and communication plan is to establish guidance for the Clark County Mosquito Control District (CCMCD) and Clark County Health Department (CCHD) in preparing for and responding to the presence of mosquito-borne viruses – arboviruses, and the illnesses they cause. Detection of arboviruses, such as western equine encephalitis virus, St. Louis encephalitis virus or West Nile virus in mosquitoes or animal populations requires prompt action to reduce the risk of human infection and illness, and the related health effects and costs to the public.

In 2000 the Washington State Department of Health (DOH) initiated surveillance activities of West Nile Virus. The Southwest Washington Health District began its first season of surveillance in 2001. The components of the surveillance program include mosquito surveillance and control, dead bird surveillance, and enhanced passive surveillance for human and horse cases of encephalitis. Although the program was established to provide early warning of the introduction of West Nile virus into Clark and Skamania counties, the procedures being implemented also provide detection capability for other arbovirus, such as western equine encephalitis and St. Louis encephalitis.

In the fall of 2002 birds from both eastern and western Washington tested positive for West Nile virus indicating that the virus had reached Washington State and increased vigilance was necessary. Wahington State remains the only “lower 48” state that has not (through August 2004) experienced a human case of West Nile virus since the inception of the disease.

MOSQUITO SURVEILLANCE/CONTROL

Background

The risk of mosquito-borne disease depends on both the number of mosquitoes capable of transmitting the virus and the prevalence of the virus among these

mosquitoes. Proper surveillance data on larval and adult mosquitoes is important for guiding appropriate prevention and control activities. Larval surveillance can provide information on expected adult mosquito density and can indicate areas where efforts to eliminate mosquitoes at their source should be targeted. Adult mosquito surveillance and viral testing provide early predictive information about the potential for a disease outbreak.

In 2002 (CCMCD) took on the task of doing more in-depth mosquito surveillance. To accomplish this task, it was necessary to purchase new traps and educate, at least one employee in the use of mosquito traps and the identification process. The goals of the surveillance program were twofold. The first was to monitor mosquito populations for species identification and populations and the second was to monitor for mosquito-borne viruses. Two other programs that assist with surveillance are the daily sampling program of larva habitat and monitoring of the daily river level at Vancouver.

Objectives

- To monitor the seasonality and abundance of mosquito populations/species and detect/identify the presence of arboviruses
- To reduce the mosquito population
- To provide community with educational information on protective measures regarding West Nile virus

Planned Activities

CCMCD will:

- Respond to service requests from the public and work to eliminate mosquito-breeding sites through education of the property owner.

- Monitor known breeding sites; conduct on-site inspections of the more egregious conditions; make referrals to appropriate agencies for abatement.

- Provide ongoing training to staff on species identification, trapping techniques and pesticide handling.

- Provide treatment of identified mosquito breeding areas to reduce the mosquito population in Clark County.

- Collect dead birds for testing and will also identify and map areas where high bird deaths are occurring.

- Provide educational information to citizens on reduction and elimination of habitat, plus information on West Nile virus and personal protection techniques (see Communication Plan).

BIRD/MAMMAL MORTALITY SURVEILLANCE

Background

Many species of birds have tested positive for WN virus, however crows and blue jays continue to be the birds most susceptible to the disease. Consequently, these species are most closely monitored in our County.

Mammals are not as sensitive to WN virus as birds. Within Washington State two horses (Whatcom and Island Counties) and a bird (Stevens County) were found infected with the virus. No additional cases of WN virus in birds, horses or mosquitoes have been identified since 2002. Presently the health department continues to work with veterinarians and other animal specialists to monitor for unusual illness and death among mammals.

Clark County will continue to track dead birds, as this type of surveillance has shown promise for predicting the spread of WN virus.

Objectives

- Develop data on bird and mammal mortality associated with West Nile virus (WN virus) as a means of early detection of West Nile Virus activity in Clark County.

Planned Activities

CCMCD will:

- Ask the public to report the dead birds they find, via a telephone information line at (360) 397-8430, or its web site www.clark.wa.gov/mosquito.html. This information will be collected daily during the work week (April 1– August 15) and daily (August 16-October 1).

CCMCD will:

- Use WN virus positive birds reports as early indicators of WN virus activity.

- Submit for testing, in accordance with Washington State Department of Health's "Mosquito-borne Disease Response Plan" (September 2003 Edition), an appropriate sample of dead birds, (especially crows and blue jays) that have died within the previous 24 hours.

- Ask veterinarians to enhance surveillance for encephalitis and other mosquito-borne disease in mammals such as horses, dogs, and cats, and to report suspected infections to CCHD.

- Routinely review US data for the movement of WN virus into the northwest region (OR, ID, MT, BC).

HUMAN SURVEILLANCE AND PROVIDER EDUCATION

Background

Washington State has a history of western equine encephalitis and St. Louis encephalitis dating back to the 1930s. The last reported case occurred in the early 1980s

These incidents were the driving force for creation of many of the currently operating mosquito control districts in Washington. Fifteen (15) mosquito control districts now operate in thirteen (13) counties.

With the outbreak of West Nile virus in the New York area during the summer of 1999 and the subsequent expansion of the disease across the country to our State in the fall of 2002, it became necessary to raise the awareness of health care professionals for rapid identification of the disease. Active human surveillance is initiated when other surveillance indicates the presence of arbovirus in mosquitoes, birds, or animals. WN virus was identified as a "notifiable condition" in 2004, requiring immediate communication to the health department when it is diagnosed. Rapid sharing of surveillance results with agencies and the public is essential for development of appropriate disease control measures.

Objectives

- To quickly detect human illness due to mosquito-borne disease, especially West Nile virus.
- To provide accurate and timely information to health care providers and the public.

Planned Activities

CCHD will:

- Provide information and education to health care providers about viral encephalitis to raise awareness in those groups (see Communication Plan).

- Work with health care providers to ensure rapid and complete laboratory diagnosis and prompt reporting of suspected cases of human encephalitis (see Communication Plan).

- Share information related the presence of arbovirus in mosquitoes, birds, animals, or humans with both health care providers and the public.

CCMCD will:

- Enhance surveillance of larva and adult mosquito in areas where the arbovirus has been found.

COMMUNICATION PLAN

Background

The CCMCD has been providing educational material about surveillance, prevention, and control to the public since 1986. That material has focused around how to identify and eliminate habitat for mosquitoes, and the role of CCMCD in accomplishing control.

CCMCD has established a Mosquito Control Hotline for the public to use in requesting assistance in reducing the mosquito population in their communities. Citizens can call the Hotline at any time and leave a message requesting assistance or advice. Each day, during mosquito breeding months, the messages are routed to staff that investigate and provide citizens with information on control techniques.

CCMCD and CCHD jointly maintain a web site which provides information on WN virus, how to identify and eliminate mosquito habitat, and personal protective measures against mosquito bites.

Objectives

- To increase public awareness of mosquito-born diseases and surveillance, prevention, and control techniques.

- To increase public awareness that the CCHD and CCMCD care for the safety and health of the community; are taking all necessary preemptive steps to control mosquitoes; and the public's role in avoiding exposure to WN virus.

Planned Activities

CCHD and CCMCD will:

- Provide information informing the public about the comprehensive prevention strategies and activities to address the threat of WN virus.
- Provide information to encourage personal protection techniques.
- Increase awareness among public and health care professionals of the potential risk for infection with arboviral disease both locally and when traveling to other areas.
- Make presentations to elected officials, community boards, and a wide variety of organizations throughout the county.
- Provide brochures and fact sheets to interested persons and organizations.

CCHD will:

- Encourage health care providers to promptly report cases of human encephalitis.
- Increase public awareness about the nature of mosquito-borne diseases and the signs and symptoms of WN virus.

CCMCD will:

- Encourage the public to help eliminate mosquito-breeding sites and report habitat using the telephone line (360) 397-8430.
- Regularly update the Mosquito Control web site found at: www.clark.wa.gov/mosquito.html.
- Coordinate communications and distribution of information with regional mosquito control agencies and health jurisdictions.

ASSESSING RISK FROM APPLICATIONS

Objective

If the application of pesticides to control adult mosquitoes becomes necessary, the public will be informed in a timely way to reduce direct exposure to pesticides.

Background

Since exposure to any pesticide has the potential to cause adverse reactions, particularly among those with pesticide sensitivity or respiratory conditions the CCMCD staff will notify those citizens in the affected area who are registered with the State as being chemically sensitive.

Planned Activities

CCHD will:

- Develop methods for identifying and monitoring potential health effects in areas where mosquito control has been conducted.

CCMCD will:

- Routinely check its files to identify any chemically sensitive citizens living in the area of any spraying and notify those persons of the time and location of the spraying. The Washington State Department of Agriculture (WSDA) provides list of citizens who are chemically sensitive.

- Provide information outlining the safe use of mosquito repellents, especially for children.